

Global Monitoring Framework



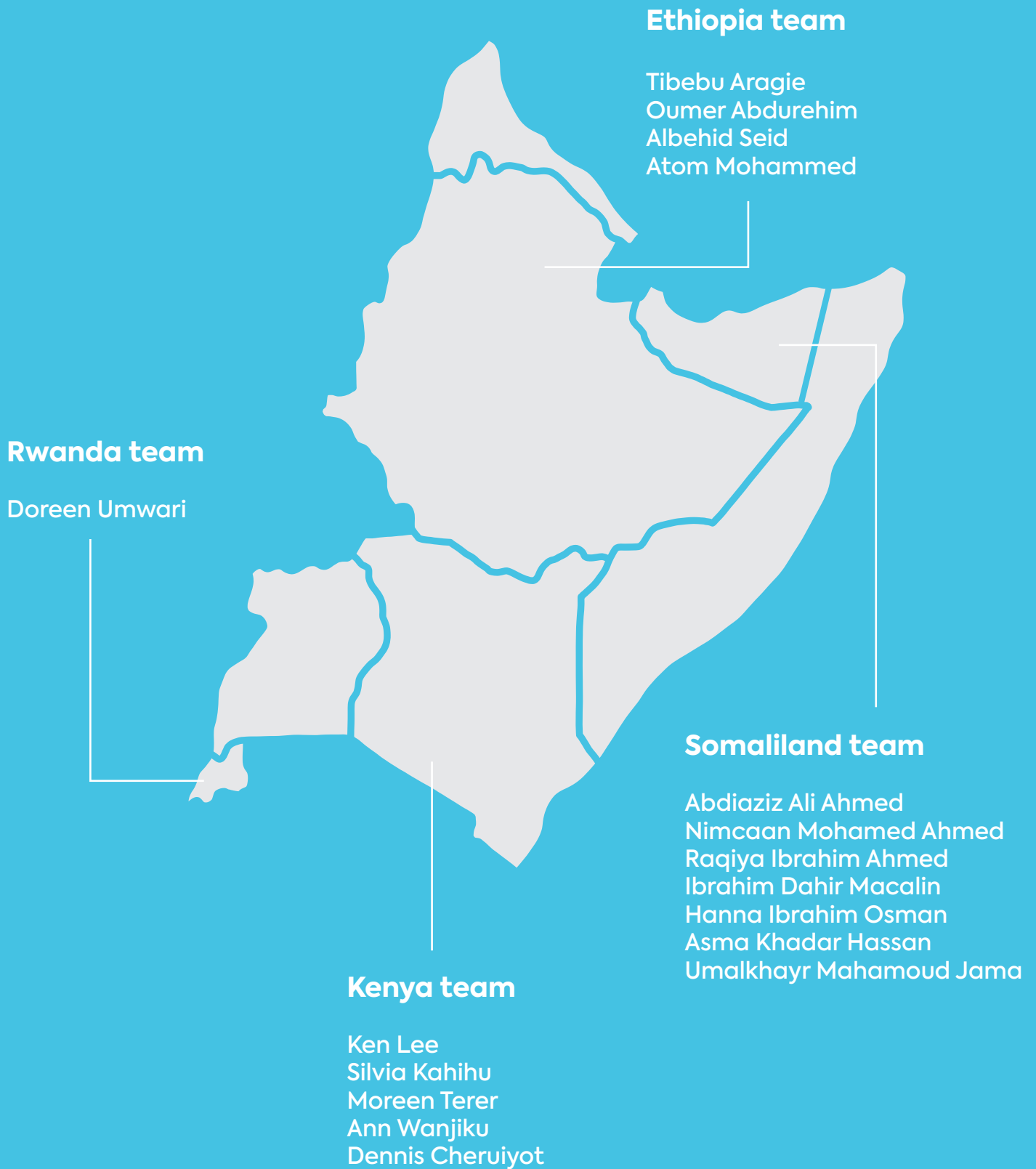
Pharo
Foundation

An Impact-Driven Approach to
Design, Monitoring, and Evaluation

December 2024



Research and Evaluation (RE) team



1 Pharo Foundation's mission-driven, impact-oriented era

Pharo Foundation, established in 2011 as the philanthropic arm of Pharo Management, was founded with a vision to drive transformative change across Africa. Initially focused on grantmaking, our early work forged strong partnerships and cultivated valuable insights into international development, preparing us to address complex challenges and scale our impact.

By 2016, we transitioned from grantmaking to designing and implementing programmes in education, agriculture, water, and health. This shift reflected our commitment to “learning by doing,” enabling us to innovate and adapt alongside the communities we serve. Our decentralised approach emphasised local leadership and engagement to ensure programmes were relevant and sustainable. During this time, we also launched Pharo Ventures, a for-profit investment arm that introduced entrepreneurial

and sustainability dimensions to our mission. By 2019, we were delivering 16 programmes across four sectors, positively impacting 10,000 people and fostering economic resilience.

In 2023, we entered a transformative phase, sharpening our focus on measurable impact and strategic realignment. A comprehensive portfolio review allowed us to refine our vision, mission, and values to align more closely with our evolving goals.

Today, we remain committed to creating sustainable improvements for the communities we support. By embedding learning and innovation into our approach, we strengthen systems that enhance resilience and success. This document outlines Pharo Foundation's Global Monitoring Framework (GMF), a system designed to systematically track and evaluate programme outcomes, support evidence-based decision-making, and ensure accountability.



Graduation ceremony at Homosha Boarding School in Benishangul-Gumuz Regional State, Ethiopia, 2023

Who we are

Pharo Foundation is a mission-driven, impact-oriented organisation that designs, funds, and operates economic development programmes towards a vibrant, productive, and self-reliant Africa.

What we do

Pharo Foundation designs, funds and operates its own programmes in pursuit of three missions.



M1. Education

Our mission is to ensure that all students have an opportunity to access a high-quality and affordable education and become productive citizens in a rapidly changing world.



M2. Water

Our mission is to ensure that people and communities across Africa have access to a safe and affordable source of water.



M3. Productivity

Our mission is to eliminate health, financial, and structural barriers to employment and productivity for working people.





How we work

Passion

We are passionate about our work, the problems we must solve, and the well-being of the people and communities we serve.

Integrity

We are honest, transparent, and guided by ethical decision-making.

Collaboration

We embrace a collective working spirit and share in our success and failure. We value being resourceful in the discovery of new ideas, engaging the communities we serve, encouraging local ownership, and working with broader stakeholders to achieve our vision.

Excellence

We strive for excellence in everything we do, from how we execute our work and respond to new challenges to how we treat one another and collaborate with our partners.

Innovation

We take calculated risks, experiment, commit to acting even in the face of uncertain outcomes, and learn from our failures. We embrace change and respond to the future.

Impact

We are relentless in our pursuit of social and economic impact, prioritize cost-effectiveness, and value an objective, evidence-based approach to decision-making.

2 How we think about impact

At Pharo Foundation, we understand impact as the measurable, meaningful changes our programmes bring to people's lives. It's not about the resources expended or the number of beneficiaries reached but about tangible improvements that matter. For instance, in employment programmes, we aim to measure success by whether participants secure better-paying jobs, rather than simply counting the number of training sessions delivered. Similarly, in education, we focus on learning gains over enrolment figures, prioritising what students actually achieve. This outcomes-first perspective reflects our ongoing commitment to delivering change that is both meaningful and sustainable.

As both funder and implementer of our programmes, we face unique

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Research and Evaluation training workshop, Addis Ababa, Ethiopia, 2024.

challenges in evaluating impact. In more traditional grant financing models, the research and evaluation (RE) function is often performed by the financing organisation. In our case, the dual role of implementation and evaluation means we must hold ourselves to especially high standards. Striking a balance between operational insight and the impartiality needed for rigorous evaluation is critical to maintaining credibility and accountability.

To address this, we established the RE team in 2022. Operating independently but working closely with programme teams, the RE team provides credible, objective, and actionable feedback to help improve programme performance. This marked a shift from traditional metrics, such as resources deployed or beneficiaries reached, toward a more outcome-oriented framework. The team's work supports us in identifying what works, where adjustments are needed, and how to strengthen our interventions.

A key tool supporting these efforts is the Global Monitoring Framework (GMF), detailed in the next section. The GMF systematically tracks and evaluates programme outcomes, offering consistent and timely data to guide decision-making. It helps us address key questions: Should we invest in this programme? Are we delivering on our commitments? Are we achieving the intended outcomes? Should successful initiatives be scaled? For instance, the GMF allows us to evaluate whether a water project has sustainably

increased community access or if an agricultural programme has improved productivity and income for smallholder farmers.

This structured approach helps us maintain transparency, accountability, and adaptability. By linking expenditures to measurable outcomes, it supports a culture of learning and improvement, enabling us to refine our programmes, scale those that demonstrate impact, and reconsider those that fall short of their goals.

At Pharo Foundation, thinking about impact means continuously learning, adapting, and collaborating to create meaningful change. By holding ourselves accountable for how we use resources and the decisions we make, we strive to maximise the value of our work and contribute lasting benefits to the communities we serve.



Laboratory technician at the Pharo Diagnostic Center in Assosa, Ethiopia, 2023.

How we design, monitor, and measure impact

In 2023, we introduced the Pharo Foundation's Global Monitoring Framework (GMF), a comprehensive system for tracking and evaluating outcomes across our portfolio of education, water, agriculture, and labour initiatives. Designed to provide standardised, consistent, and timely insights, the GMF enables data-driven decision-making and reinforces our commitment to accountability and measurable impact.

At its core, the GMF addresses three critical programming questions: (i) Should we invest in this programme? (ii) Are we delivering what we promised? (iii) Did we have an impact? These guiding questions ensure that every initiative is evaluated with clarity and purpose, fostering a culture of learning and continuous improvement.

The framework produces quarterly metrics that summarise programme

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As a self-funded implementing organization, our GMF plays a crucial role in providing independent and actionable feedback on program performance so that we can maximise the impact of every dollar spent.



Research and Evaluation staff conducting field surveys with farmers in the Somaliland Agricultural Productivity Enhancement Programme (SAPEP), in Maroodi Jeeh region, Somaliland, 2022.



Training session for enumerators on the IDELA assessment for the Hargeisa ECE study, held in Hargeisa, Somaliland, 2024.

In 2023, we introduced Pharo Foundation's Global Monitoring Framework.

implementation and outcomes, serving as a critical decision-making tool for the Board of Trustees. By focusing on the three key stages of programme development—Design (how we assess opportunities for investment), Monitoring (how we track progress), and Evaluation (how we measure impact)—the GMF supports strategic decision-making at every level. This ensures we can scale successful initiatives while responsibly discontinuing those that fall short of our high standards for impact.

By embedding this systematic approach into our operations, the GMF not only strengthens transparency and accountability but also builds confidence among our partners and stakeholders, reinforcing our ability to deliver meaningful, sustainable change.

The GMF is built on three guiding principles for data collection and analysis:

Credible: Data must be valid, accurately measuring intended outcomes, and reliable, producing consistent results across contexts and time. This involves using robust tools, standardised methods, and carefully designed instruments, such as scripted questions translated into local languages. While Randomised Controlled Trials (RCTs) are preferred for impact evaluations,

alternative methods like difference-in-differences analysis are used when counterfactuals are not feasible.

Actionable: Insights must be actionable, enabling programme teams to make informed decisions that enhance outcomes. Clear recommendations prevent information overload and ensure data directly informs programme improvements.

Responsible: Data collection balances benefits with costs, including financial resources, participant time, and privacy concerns. This principle safeguards beneficiary welfare and ensures ethically aligned practices.

By adhering to these principles, the GMF delivers timely, actionable insights that maximise the impact of every initiative, driving meaningful, sustainable change.

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While rigour is important, we recognize that timely recommendations are essential for enhancing program outcomes and driving future investments.



Pharo TVET electrical students showcasing their work on a solar energy installation in Hargeisa, Somaliland, 2023.

Key decision points

1. Design

Core questions:

Should we invest in this program? Is this the best way to solve this problem?

RE activities:

Performing process checks
Calculating F-factors
Providing comments (for trustees)

Metrics:

F-factor

2. Monitoring

Core questions:

How is it going? Are we delivering what we said we'd deliver?

RE activities:

Implementation fidelity (deliverables, costs)
Take-up fidelity (targeting, engagement)
Collecting qualitative feedback

Metrics:

Implementation score (I-score)
Design score (D-score)
Rolling F-factor

3. Evaluation

Core questions:

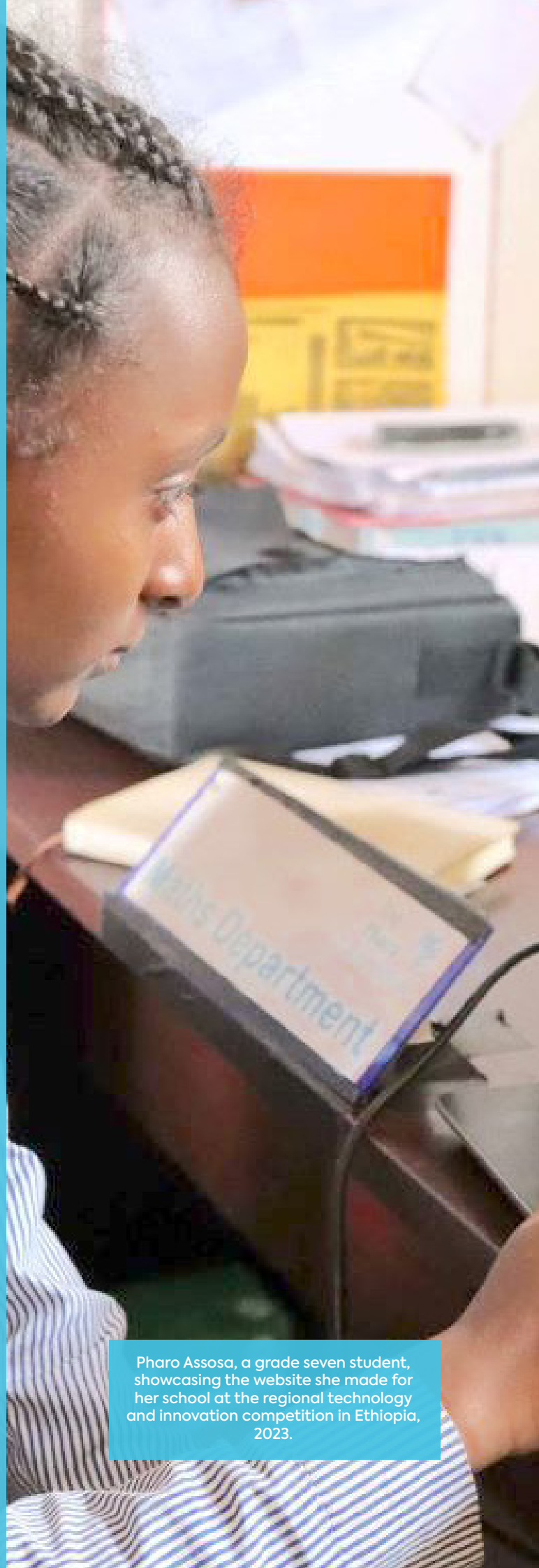
Did we have an impact? Should we do this again?

RE activities:

Gold — rigorous, academic-quality evaluations.
Silver — evaluations with pre-identified, non-random comparison groups.
Bronze — “back-of-the-envelope” estimates (e.g., rolling F-factor).

Metrics:

“Bottom-line” impact estimate



Pharo Assosa, a grade seven student, showcasing the website she made for her school at the regional technology and innovation competition in Ethiopia, 2023.

A) Design

How we assess ideas

At the design stage, we carefully evaluate new programming opportunities to ensure they align with our mission, target clear objectives, and offer cost-effective solutions. This helps us assess the potential for meaningful impact, sustainable growth, and realistic resource requirements.

A key tool in this evaluation is the 'F-factor,' an adaptation of Social Return on Investment (SROI). The F-factor provides an early-stage estimate of a programme's return on investment through the following steps:

Define outcomes: Identify the programme's primary goal.

Assess likely social impact: Evaluate the likely scale and effectiveness of the programme using evidence-based methods, informed by the research literature.

Discount benefits: Convert long-term benefits into their present value.

Discount costs: Calculate total implementation costs, adjusted to present value.

Benefit-cost ratio: Compare benefits to costs; a ratio above 1 indicates strong cost-effectiveness and feasibility.

To complement the F-factor, the RE team applies additional scoring metrics to guide decision-making. These include a Mission Alignment Score, which measures how closely the programme aligns with the Foundation's mission and strategic priorities; a Mission Impact Score, which evaluates the programme's potential to deliver significant outcomes relative

to key mission milestones; and a Risk Management Score, which assesses the Foundation's capacity to effectively navigate and mitigate risks during implementation.

These metrics, while evolving, act as process checks, guiding decisions on whether to invest in a programme. By systematically applying these tools, we create a pipeline of opportunities, enabling comparative evaluation and prioritisation of the most promising initiatives.

B) Monitoring

How we track progress

Monitoring approved programmes is essential to ensure they remain aligned with their goals, resources, and intended impact. This process goes beyond checking whether activities are completed on time. It involves evaluating how the programme is being implemented and whether it is on course to achieve its objectives.

The RE team helps curate and standardise data to provide timely insights into both programme delivery and design. Through systematic assessments, the team evaluates performance using Key Performance Indicators (KPIs) that are directly tied to programme goals. These KPIs are grouped into two critical categories: **Implementation** and **Design**.

Data collected through these KPIs is synthesised into two evolving scores: the **Implementation Score** (I-score) and the **Design Score** (D-score). These metrics offer a data-driven snapshot of programme performance at any point.

The **I-score** focuses on execution fidelity, measuring how well the

programme adheres to its planned deliverables, timeline, and budget.

Deliverables fidelity: Tracks whether key milestones and outputs are being met.

Cost fidelity: Monitors financial performance to ensure resources are used efficiently and within budget.

Timeline fidelity: Checks whether the programme is progressing on schedule.

The **D-score** evaluates how well the programme design meets the needs of its intended beneficiaries and encourages engagement.

Targeting fidelity: Assesses whether the programme is reaching its intended audience.

Engagement fidelity: Monitors participant involvement to ensure full utilisation of available services and evaluates whether participants are responding as intended.

Together, these scores provide a framework for continuous monitoring and adaptation that enables us to consistently evaluate, “Are we delivering what we promised?”

C) Evaluation

How we assess impact

At Pharo Foundation, programmes are designed with clear, measurable goals to ensure impact considerations are integrated from the outset and sustained throughout implementation. Our evaluation process focuses on two key questions: Did the programme achieve meaningful impact? Should it be scaled to expand its reach and benefits?

To answer these questions, we analyse data collected throughout a programme’s lifecycle. Tools such as surveys, randomisation, and advanced technologies like remote sensing provide timely and actionable insights. Where feasible, we aim to identify meaningful comparison groups or use other evaluation techniques that isolate programme effects from external factors.

Recognising that not all programmes lend themselves to rigorous evaluation, we balance the need for robust evidence with feasibility and ethical considerations. In cases where existing research provides sufficient confidence in impact or where detailed evaluations would be overly burdensome, we adapt our approach to suit the context.

Our tiered evaluation system reflects this flexibility by tailoring methods to the context of each programme. **Bronze evaluations** are used when establishing a strong counterfactual is not feasible. These rely on survey data and contextual insights to estimate impact. **Silver evaluations** are applied when randomisation is impractical but meaningful comparison groups are identifiable. Finally, **Gold evaluations** are reserved for high-priority programmes and employ Randomised Controlled Trials (RCTs) to establish clear causal relationships.

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Every program is designed with clear, measurable goals, ensuring that impact is embedded from the start.

Bronze case study:

Monitoring rural water access with Camel Cams in Somaliland



Research and Evaluation team member installing the Camel Cam 2.0 with edge computing technology to enable real-time monitoring of dam usage at Wado-Makahil, Somaliland, 2024.

In arid and semi-arid regions, rainwater harvesting dams are critical for ensuring water security. However, evaluating their impact presents significant challenges. These projects are geographically constrained, as dam placement depends on factors like land gradient and hydrology, making random assignment impossible. In Somaliland, where pastoralist communities rely on mobility and shared access to water, evaluating these projects is further complicated by dispersed populations and the lack of stable counterfactual groups.

In light of these challenges, Pharo Foundation used a **bronze evaluation approach** for one of its rainwater harvesting dam projects, integrating

Camel Cam technology — solar-powered cameras designed to monitor dam usage. This approach tackled two key barriers: (i) the lack of reliable data on water usage, and (ii) the logistical difficulties of monitoring remote infrastructure. Conventional ground-level surveys, while commonly used, are costly, labour-intensive, and prone to inaccuracies, especially in remote regions.

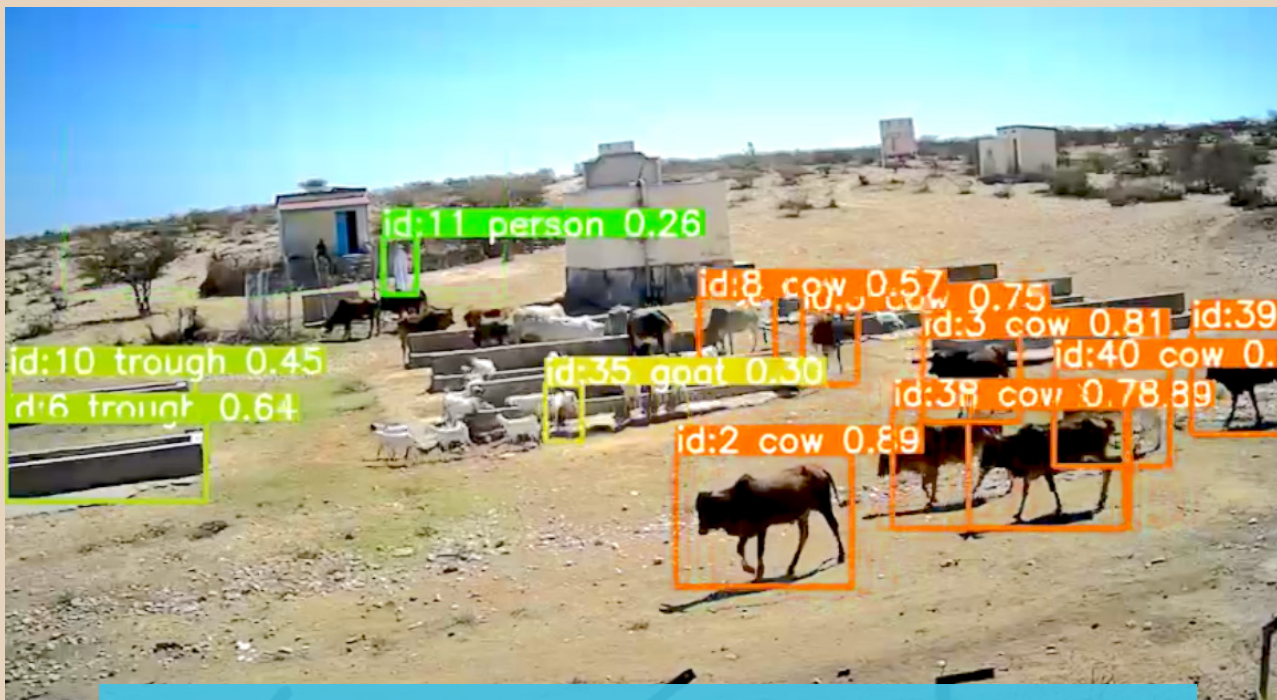
Camel Cams, installed at dam sites, provided an innovative solution. These solar-powered cameras captured high-resolution video footage, which was analysed using advanced object detection algorithms like YOLOv9. This technology enabled real-time

identification and counting of people and livestock accessing the water, offering granular insights into visitation patterns and overall utilisation.

One of the primary objectives was to generate a reliable count of beneficiaries using the dam. This data allowed for practical estimates of impact in contexts where rigorous methods like Randomized Controlled Trials (RCTs) are unfeasible. For example, livestock visitation data during dry seasons offered a proxy for avoided losses, while human visitation patterns provided evidence of improved water security. These insights supported a back-of-the-envelope calculation of the dam's impact, grounded in meaningful beneficiary data.

The evaluation also employed pre-post comparisons, capturing baseline data on water availability and community challenges prior to dam construction. Combined with real-time *Camel Cam* monitoring, this approach provided a comprehensive understanding of usage patterns over time.

While not as rigorous as evaluations with strong counterfactuals, this approach balanced feasibility with actionable data collection. By bridging data gaps in a practical and cost-effective manner, *Camel Cam* technology has enhanced the Foundation's ability to monitor rural water infrastructure. It also offers a scalable model for other regions facing similar challenges, demonstrating how technology can support evidence-based decision-making in resource-constrained environments.



A glimpse of our model in action at an 18,000 m³ hafir dam, detecting humans, cows, camels, goats, donkeys, and water containers in real-time, Illinta, Somaliland, 2024.

Silver case study:

Input subsidies and training for smallholder farmers in Ethiopia.

In Ethiopia's Benishangul Gumuz region, Pharo Foundation implemented a programme to provide inputs and training for over 1,200 farmers in Undulu, Menge, and Homosha. The programme provided declining input subsidies, such as fertiliser and seeds, alongside training in Good Agricultural Practices (GAP). Additional interventions included livestock management, horticulture, and savings groups, with support levels tailored to farmers' needs.

To evaluate the programme, Pharo Foundation used a silver evaluation approach, applying a difference-in-differences methodology to compare treatment and comparison groups. Treatment farmers were selected based on land ownership, land size, and agricultural activity, while comparison farmers were chosen from nearby villages with similar characteristics. Baseline surveys confirmed the groups' comparability, establishing a credible counterfactual. Data collected at baseline

and endline focused on land use, crop yields, and market participation.

Results showed that treatment farmers expanded maize cultivation from 0.5 to 0.9 hectares and increased yields from 16.4 to 17.9 quintals per hectare. Additionally, the proportion of farmers growing maize exclusively for home consumption halved, reflecting a shift toward market-oriented production. However, the adoption of GAP remained limited, with yield increases largely attributed to input subsidies. These subsidies also incentivised farmers to bring previously idle land into cultivation.

This silver evaluation highlights the effectiveness of difference-in-differences in measuring programme impact when randomisation is not feasible. It also underscores the importance of complementing subsidies with effective knowledge transfer to ensure sustainable improvements in productivity and resilience.



New papaya, guava, and avocado seedlings at Tumet Jaberona Nursery, a demonstration site for the Agricultural Development Programme (ADP) in Ethiopia, 2023.

Gold case study:

Early childhood education in Somaliland.



A child participating in the IDELA assessment as part of the Hargeisa ECE study in Somaliland, 2024.

In Sub-Saharan Africa, 61% of children under five fail to reach their developmental potential due to poverty, malnutrition, and limited access to early learning opportunities. In Somaliland, this challenge is even more pronounced, with only 5.7% of children accessing early learning services. Rural areas are particularly affected, with most children enrolling directly in primary school without preschool preparation. Despite efforts by Somaliland's Ministry of Education to expand Early Childhood Education (ECE), resource constraints have slowed progress. Global evidence highlights the transformative impact of quality ECE on cognitive development and school readiness, underscoring the need for investment in this area.

Pharo Foundation's ECE programme provided an opportunity to use a Gold evaluation approach, applying a rigorous Randomized Controlled Trial (RCT) design. High demand for enrolment enabled the equitable use of a lottery system to assign seats, ensuring fairness and the creation of robust treatment and control groups. This study also filled a critical gap in development economics research in Somaliland, contributing valuable data to the global evidence base.

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Evidence highlights the transformative impact of ECE on cognitive development and school readiness.



Pharo Kindergarten students celebrating their graduation ceremony at Mansoor Hotel in Hargeisa, Somaliland, 2023.

“Access to early education is especially critical in rural areas, where most children enrol directly in primary school without any preschool preparation.”

Between August 2023 and May 2024, the Foundation conducted a nine-month RCT in Hargeisa, Somaliland, targeting five-year-old children across 14 public schools. A total of 1,511 children were randomly assigned to either the treatment group, which participated in structured ECE sessions, or the control group, which did not. The programme engaged 970 children in five-day-a-week, play-based learning sessions focused on literacy, numeracy, and socio-emotional development. Data was collected using the International Development and Early Learning Assessment (IDELA), measuring motor skills, problem-solving, literacy, numeracy, and social-emotional skills, alongside household conditions and caregiver involvement.

Baseline and endline surveys, complemented by a follow-up willingness-to-pay (WTP) survey in August 2024, provided comprehensive insights into programme impacts and public policy potential. Preliminary results revealed significant gains in literacy and numeracy for children in the treatment group, who outperformed their peers in the control group, even though 60% of the latter attended alternative early learning programmes. These findings underscore the importance of structured, play-based learning environments in achieving superior outcomes.

Beyond child development, the programme positively influenced parental well-being and educational investment, demonstrating broader societal benefits. This gold evaluation affirms the critical role of quality ECE in improving school readiness and provides a strong evidence base to guide policy and scaling efforts in Somaliland.

4 Looking beyond

Over the past year, Pharo Foundation has made progress toward becoming a learning organisation — one that seeks to deliver meaningful programmes while continuously adapting and improving. This ongoing journey reflects the opportunity for nonprofits to embed evidence-based decision-making into their work, enabling steady improvements in outcomes, scaling of effective solutions, and stronger partnerships with collaborators and communities. Yet there is still much to learn and refine in enhancing our approach. For example, integrating A/B tests and other rapid testing methodologies into programming can offer opportunities to improve interventions with greater speed and precision.

The Global Monitoring Framework (GMF) has been a helpful tool in supporting these efforts. Its focus on credibility, actionability, and responsibility has contributed to a stronger foundation for accountability and learning. As we build on this work, the GMF continues to provide opportunities for leveraging data and experimentation to develop thoughtful, evidence-based strategies.

We recognise this as an ongoing process, one that will require collaboration and openness to new ideas. We invite donors, partners, and peers to join us in advancing the potential of a learning organisation. Together, we can work toward meaningful, sustainable change for the communities we serve.

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We recognise the GMF is an ongoing process, one that will require collaboration and openness. We invite donors, partners, and peers to join us as we explore the full potential of a learning organisation.



Graduation ceremony for Pharo Kindergarten students in Berbera, Somaliland, 2024.

